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ABSTRACT

This practicum encouraged department managers of a large nonprofit biologics pharmaceutical firm to use the organization's satellite-based Interactive Distance Learning (IDL) system (i.e., viewer-response system (VRS)). A self-paced instructional module was developed and made available for department managers to access in three on-line formats, including the organization's intranet, a secure Internet site, and diskette. The instructional module provided department managers with information about the IDL system's capabilities, costs, availability, and potential uses. It also encouraged them to support the organization's mission and strategic goals by using the IDL system to support their departments' education, training, and communications needs. Department managers completed a paper-based pretest, completed the instruction via one of the on-line access formats, and completed a paper-based posttest and posttraining questionnaire. An analysis of data revealed that the instructional module increased the department managers' knowledge of the IDL system's capabilities and increased their recognition of potential uses to meet their departments' education, training, and communication needs. Finally, it demonstrated that with this increased knowledge the use of the IDL system was likely to increase within the organization. Appendices include the interview protocol, post-training questionnaire, pre-test, and post-test. (Author/AEF)

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Using Self-Paced, Intranet-based Instruction to Increase the Use of an Interactive Distance Learning (IDL) System to Support Communication, Education, and Training

by
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Instructional Technology and Distance Education Cluster #2

A Practicum Report Presented to the Ed.D. Program
in Instructional Technology and Distance Education
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Education

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Table of Contents

Page

Chapter I: Introduction 1
Description of Community 1
Writer's Work Setting 2
Writer's Role 3

Chapter II: Study of the Problem 5
Problem Statement 5
Problem Description 5
Problem Documentation 6
Causative Analysis 8
Relationship of the Problem to the Literature 10

Chapter III: Anticipated Outcomes and Evaluation Instruments 16
Goals and Expectations 16
Expected Outcomes 16
Measurement of Outcomes 18

Chapter IV: Solution Strategy 20
Discussion and Evaluation of Solutions 20
Description of Selected Solution 26
Report of Action Taken 27

Chapter V: Results 33
Results 33
Discussion 41
Recommendations 42
Dissemination 44

References 45

Appendices 48
A Interview Protocol for Interviews Conducted Face-to-Face and via Telephone 48
B Interactive Distance Learning Posttraining Questionnaire 50
C Interactive Distance Learning Pretest and Posttest 52

Tables
1 Viewer Response System Intranet-based Training Posttraining Questionnaire Summary of Responses 35
2 Viewer Response System Intranet-based Training Summary of Pretest and Posttest Scores Questions 1 through 11 38

3 Viewer Response System Intranet-based Training Summary of Pretest and Posttest Scores Question 12 40

ABSTRACT

Using Self-Paced, Intranet-based Instruction to Increase the Use of an Interactive Distance Learning (IDL) System to Support Communication, Education, and Training. Klueter, Lissa., 1999: Practicum Report, Nova Southeastern University, Ed.D. Program in Instructional Technology and Distance Education. Intranet-based Instruction, Web-based Instruction, Internet-based Instruction, Interactive Distance Learning System, Self-paced, Satellite-based, Viewer Response System.

This practicum encouraged department managers of a large nonprofit biologics pharmaceutical firm to use the organization's satellite-based Interactive Distance Learning (IDL) system (i.e., viewer response system (VRS)). The practicum provided the department managers with information about the IDL system. The department managers had inaccurate perception about the IDL system's capabilities, costs, availability, and potential uses. In addition, the organization did not have a convenient and timely distribution method to inform managers about the IDL system's capabilities or to market it to them.

The writer developed a self-paced instructional module available for department mangers to access in three on-line formats including the organization's intranet, a secure Internet site, and diskette. The instructional module provided department managers with information about the IDL system's capabilities, costs, availability, and potential uses. It also encouraged them to support the organization's mission and strategic goals by using the IDL system to support their departments' education, training, and communications needs. Department mangers completed a paper-based pretest, completed the instruction via one of the online access formats, and completed a paper-based posttest and posttraining questionnaire. An analysis of the data revealed that the instructional module increased the department managers' knowledge of the IDL system's capabilities and increased their recognition of potential uses to meet their departments' education, training, and communication needs. Finally, it demonstrated that with this increased knowledge the use of the IDL system was likely to increase within the organization.

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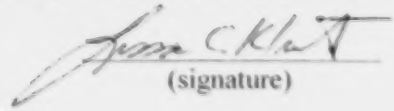
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Chapter I: Introduction

Description of Community

The practicum took place in a large nonprofit biologics pharmaceutical firm and targeted its department managers. The organization's mission was to fulfill the needs of the American people for the safest, most reliable, and most cost effective blood, plasma, and tissue through voluntary donations. It also provided tissue for nearly one quarter of transplantation surgeries. Additionally, the organization developed, tested, and implemented training programs in areas such as the operations of sophisticated blood testing laboratories and the selection of donors (American Red Cross Biomedical Services, 1996).

The organization had offices throughout the United States. It was a hierarchical organization with three reporting levels including national headquarters, area offices, and regional offices. The 37 regional offices reported to the five area offices. The area offices reported to national headquarters. Each level of the organization was further organized into two sections–manufacturing operations and business operations. Manufacturing operations was responsible for donor screening, collection, component processing, storage, and distribution. Business operations included business development, finance, human resources, information systems, quality assurance, and training.

Thousands of volunteers and 15,000 paid staff worked for the organization. The majority of the paid staff and volunteers were medical professionals with expertise in blood banking technical areas. Typically, these professionals worked at the area and regional offices in manufacturing operations. The business operations staff included managers for each department at the regional, area, and national headquarters levels. The regional and area managers were responsible for their departments at the local level while

national headquarters' managers were responsible for their departments' business operations for the entire organization. The organization was dependent upon donations and was very fiscally conscious. It was always looking for ways to more effectively use its resources, including ways to more efficiently train its large workforce.

Writer's Work Setting

The writer's work setting was the department that provided training and education support to department mangers within the organization. The training department worked with national headquarters' department managers to develop customized instruction that was delivered to department managers in area and regional offices. In addition, the training department developed instruction for regulated training topics and education in the area of biomedical technology to support the large medically oriented staff in manufacturing operations.

The training department's mission was to support education, training, and organizational learning activities by practicing the best instructional design methods and by using training technologies that increased effectiveness and reduced costs. One of its primary roles was to encourage and guide department mangers to consider the use of various training technologies to support their communication, training, and educational needs. In this role, the department fulfilled its mission to increase training effectiveness and reduce costs.

The training department was unique because it developed programs for use with various instructional technologies but did not deliver the training. Department managers were considered experts in their particular area and were best suited to deliver the instruction. Frequently, the training department partnered with other departments to develop and implement new programs. Typically, the training department developed the

instructional design and provided assistance with the training technology while the department provided the subject matter expertise and course instructors. The training department also assisted departments in using training technology to support their communications needs, such as telemeetings and focus groups. The national headquarters' training department staff included program managers, instructional designers, and training technologists who provided support to department managers for their training, education, and organizational learning programs. The training department's representatives in the area and regional offices included area education and training directors (ATEDs), education managers, education coordinators, and staff supervisors.

Writer's Role

The writer was a program manager of training technologies within the training department and was responsible for promoting, developing, and producing training and educational programs that were delivered throughout the organization using instructional and distance learning technology. To promote programs, the writer conducted an assessment with department managers to determine how various training technologies could be employed to support their departments' needs. The writer also provided information on the capabilities of each available technology and its costs. In addition, the writer provided information on how programs were produced including the development process, production timelines and budgets, and logistical considerations.

When a department identified a program for implementation, the writer recommended an appropriate training technology. If a department manager decided to use the organization's viewer response system or interactive distance learning (IDL) system, the writer planned the program by arranging satellite, studio, and rehearsal time. The writer worked with the department manager to develop the instructional design and

managed a team of training technology professionals who developed various program elements (e.g., slides, graphics, videos, etc.) and provided technical support. When the program was ready to implement, the writer worked with studio personnel to ensure that the program was successfully implemented. After the program was complete, the writer provided various summary and feedback reports to the department to assess the program's effectiveness and cost benefit.

Chapter II: Study of the Problem

Problem Statement

The problem addressed in this practicum was that department managers did not use the IDL system to support their departments' communication, education, and training needs. Ideally, department managers would routinely examine their departments' communication, training, and education needs to determine if the IDL system could help meet their needs more cost effectively. Previously they relied on conventional methods to meet their needs, including classroom training and face-to-face meetings, without considering IDL in their planning of new programs.

Problem Description

The organization planned very few IDL programs and did not use the IDL system for 8 months during 1997, despite a senior management mandate that encouraged the use of the IDL system. The organization purchased the IDL system in 1995, and the training department implemented it in record time for an organization of its size (Klueter & Kalweit, 1998). Initially, the training department offered several IDL programs. Unfortunately, some departments viewed the IDL system as the exclusive tool of the training department and did not realize that it could be used to support their needs. Other departments did not view it as available to them at all. When the training department began to struggle for ideas and funding for programs it decided to approach other departments to use it. Unfortunately, other departments associated it with training applications only and could not see how it could be used in other ways. They also had not accounted for the expenditure in their budgets. Executive management began to worry that they had unwisely invested in IDL technology. This caused them to encourage senior department managers to think of ways to use it. However, senior department managers

responded that the IDL system was inappropriate for their needs, and they had not budgeted for the programs, or they simply ignored the request (D. Floyd, personal communication, June 25, 1997; R. Davey, personal communication, June 30, 1997; L. Hoyer, personal communication, June 27, 1997; R. Platte, personal communication, June 25, 1997). In spite of this response, executive management, convinced that using the IDL system would save the organization money, decided to offer it to the other divisions of the organization and purchased more equipment.

Problem Documentation

The writer found evidence of this problem throughout the organization in broadcast schedule logs, an internal newsletter, newspaper articles, personal communications, and in taped interviews. The writer found evidence in broadcast schedule logs listing only non-IDL broadcasts for an 8-month period during 1997 (American Red Cross, 1997a). Each month the corporate communications department issued a monthly calendar of upcoming satellite-based programs offered through the organization's internal business television system. For an 8-month period the calendars indicated that no IDL programs were offered. The writer collected this evidence by gathering and compiling corporate documents over a period of several months.

The writer found evidence that executive management expected the IDL system to replace expensive classroom training in delivering instruction to field personnel. The source of this evidence is an internal newsletter. In the newsletter, the leader of the organization described the organization's vision to reengineer how national headquarters delivered training to field personnel by acquiring new technology for distance learning. In the article, the leader stated the organization's desire to ultimately replace much of the organization's costly classroom training (American Red Cross, 1997b). The writer

collected this evidence by gathering and compiling corporate documents over a period of several months.

The writer found evidence that executive management expected the IDL system to reduce classroom training and building maintenance costs to save a projected $1.6 million annually (Clolery, 1997). The source of this evidence was found in a newspaper that focused on nonprofit organizations. The article outlined a cost savings plan for reorganizing the organization, making staff reductions, and implementing a distance learning system. The writer collected this evidence by reviewing various news articles over a period of several months.

The writer found evidence that senior management expected department managers to use the IDL system to meet their education, training, and communication needs (J. Ross, personal communication, July 18, 1997; J. Handler, personal communication, October 16, 1997). In a letter to department managers, the organization's senior vice president requested that they submit five IDL program ideas for review. In a memo to department managers, the training department's senior director encouraged the managers to examine ways to use the IDL system to support various organizational communication and learning activities. The source of this evidence was found in two internal memos from two senior managers within the organization. The writer collected this source by compiling corporate documents over a period of several months.

The writer found evidence in face-to-face and telephone interviews. The writer conducted taped interviews with 25 individuals at all levels of the organization. The writer interviewed instructional designers, training technologists, program managers, training directors, education managers, and department managers. The data obtained from the taped interviews revealed many causes for underuse of the IDL system. Appendix A

contains the protocol used to conduct these interviews.

Causative Analysis

The writer reviewed evidence indicating that there were three possible causes of the problem. The writer discusses each cause below.

Inaccurate perceptions. Managers had inaccurate perceptions about the IDL system's capabilities, costs, availability, and potential uses (Anonymous personal communication, 1997). The taped interviews revealed that managers did not have a clear understanding of basic information about the IDL system. Managers needed this understanding to make informed decisions about using the IDL system. Most managers either underestimated the IDL system's capabilities or confused the technology with two-way videoconferencing. In some cases, managers discredited the technology because it did not have two-way video capability, which would make it similar to classroom delivery. They could not understand why the organization invested in what they perceived as a "low tech" solution.

The writer analyzed data obtained from interviews with managers using the analysis of causes method and the why-why analysis method. Using these methods, the writer identified recurring themes obtained in the interviews and categorized them. This was useful in identifying patterns for causes of the problem. For each of the themes identified, the writer then used the why-why analysis method. This method identified a problem statement and then asked the reasons why this problem exists. For each reason identified, the writer again asked why this problem was occurring. At the end of this analysis the writer identified several root causes to the problem.

The writer further investigated the cause by conducting face-to-face interviews with department managers. Once the key reasons or root causes for the managers'

inaccurate perceptions were identified, the writer conducted more interviews to determine if the problem was occurring in more than one department.

Because managers did not have basic information about the IDL system's costs, capabilities, and availability, they were unable to make informed decisions about how and when to use it. Without this basic information, managers speculated about the IDL system's capabilities. Most of the time, they did not view it as an option that was available to them.

Capabilities unknown. Managers did not know about the IDL system's capabilities (Anonymous personal communication, 1997). Again, the writer analyzed data from interviews using the analysis of causes method and the why-why analysis method to identify themes and root causes of the problem. Using these methods, the writer determined that managers had not been informed about the IDL system. The training department assumed that because it had demonstrated the IDL system, the entire organization would immediately understand how it could be used to support its needs. Unfortunately, the majority of the nontraining departments did not bother to observe these demonstrations because they did not consider them to be relevant to their needs. During the face-to-face interviews with department managers, the writer confirmed that no formal method was used to inform them of the IDL system's capabilities. Essentially, the training department never informed managers about the IDL system's capabilities in a way that was relevant to their needs.

Distribution method. The lack of a convenient and timely distribution method to inform department managers about the IDL system's capabilities was another cause of the problem (Anonymous personal communication, 1997). The writer analyzed various corporate information distribution systems and determined that even though the

organization had electronic mail, broadcast fax, broadcast voicemail, and an intranet web site, it did not use these communication mechanisms to inform managers about the IDL system. The writer further investigated this cause by conducting face-to-face interviews with corporate communication and information systems department representatives. The result of these interviews revealed that the training department had not used existing communication distribution systems to inform managers about the IDL system's capabilities.

Relationship of the Problem to the Literature

The writer researched several literature topics to determine possible causes of the problem including distance education and instructional technology leadership, strategic planning, technology implementation, technology management, technology adoption, innovation adoption, technology resistance, technology diffusion, interactive television, business television, educational television, and attitudes toward technology. The writer identified eight issues in the literature as similar problems, supportive evidence, and possible causes. The writer describes each issue below.

Lack of user training. The IDL system would continue to be underused unless department managers were trained to recognize its uses. Mantyla and Gividen (1997) listed the lack of user training as one reason why distance learning initiatives failed. They found that distance learning initiatives failed in organizations because little emphasis was placed on training users to use the technology. The organization did not develop a training program to teach department managers how best to use the IDL system to support their needs. Consequently, they did not recognize how it could have supported their needs.

Misconceptions about distance learning. Without information about how the IDL

system could help them meet their communication, education, and training needs, managers would continue to have inaccurate perceptions and would not fully understand the concept of distance learning. Mantyla and Gividen (1997) found that users misunderstood the concept of distance learning. This may be because the term distance learning was too limiting and caused confusion. Many users perceived that distance learning technology was only used for training. Frequently, they had not been made aware that it could be used for other applications. Users thought that if they were not doing training, the IDL system was inappropriate. Mantyla and Gividen also found that users perceived that distance learning did not match their needs and believed it was not available to them. The view that the IDL system was only appropriate for training and belonged to the training department reinforced this perception.

Encouragement to change. Department managers required encouragement to change the way they met their communication, education, and training needs. Kershaw (1996) wrote, "Effective change is not about introducing this or that new technology; it is about encouraging people to change the way they do things and the way they think about their roles in the organization" (p. 44). Kershaw also stated, "Many of these technology enthusiasts tend to focus on the technology at the expense of critical thought about the appropriateness of its application to the teaching/learning process" (p. 44).

When the IDL system was first introduced to the organization, the effort was led by technology enthusiasts who were very proficient with the technical aspects of the IDL system. They did not have backgrounds in training or education. Consequently, more emphasis was placed on installing equipment than using it. No training and education staff were involved in determining the needs of the organization and how this technology could serve various departments' needs. Essentially, the implementers felt that if the

equipment was installed and demonstrated, users would immediately recognize its value and decide to use it.

Internal marketing. Without an internal marketing program the IDL system would continue to be underused. Mantyla and Gividen (1997) found that many distance learning initiatives failed because they were not promoted well internally. This problem was the most significant failing of the IDL system's implementation, and it probably contributed to the IDL system not being used for 8 months in 1997. In addition, managers needed cost information when they budgeted for the following year's programs. If department managers did not have information about the IDL system, particularly information on how much it costs to use it, they would not able to budget for the expense, thus preventing them from producing programs for an entire year. Mantyla and Gividen also found that corporations failed to develop marketing plans when implementing new distance learning systems. When the IDL system was installed, a marketing plan was not developed.

Using technology to solve strategic business problems. An increase in the IDL system's use would not occur unless department managers recognized the role the system played in solving strategic business problems. Schreiber and Berge (1998) found that organizations with successful distance learning programs aligned distance learning events with the organization's corporate mission and vision to provide solutions to business problems. The organization had never formally expressed how the IDL system's capabilities could support the organization's corporate mission or vision. Consequently, department managers who were focused on meeting the corporate mission did not understand how it could help them meet their goal.

Schreiber (1998) also found that companies that were immature in technological

capability did not make links between the distance learning event and strategic planning by the organization. Schreiber listed various technological capability maturity levels that organizations passed through when implementing strategic distance learning. The first stage is called separate/sporadic training events. During this stage, an organization's initial attempts at distance learning are spearheaded by an individual or single department responsible for the technology implementation. In the writer's organization the spearheading department was the training department. During this stage, the access is tightly controlled by the department causing isolated training events that do not include collaboration with other departments. Schreiber further described that during this stage there is usually no link between the distance learning event and the organization's strategic plan. Companies began to develop a mature technological capability when the distance learning events became standard practice and involved an interdisciplinary team approach.

Cost-benefit model. Department managers had not been given an adequate cost-benefit model for producing IDL programs. Mantyla and Gividen (1997) stated that organizations perform poor cost-benefit analysis for distance learning programs. The cost benefit models that were used within the organization demonstrated cost savings that were based upon replacing classroom training. This was not an adequate model for how the organization conducted training because a significant amount of training was conducted in small classes or one-on-one with an instructor at the employee's job site. Larger numbers of participants were required to make the IDL system cost effective. Mantyla and Gividen also found that cost-benefit analysis models that compared distance learning too much to classroom training and overemphasized travel savings contributed to distance learning program failure. Travel was not a significant cost because most

employees were trained at their job sites. If employees were required to drive to participate in an IDL remote classroom, this would actually increase the cost of training rather than reduce it. The organization needed a cost-benefit model that compared training events that had wide appeal to larger audiences.

Planning for the "learning curve." The organization's training department did not plan or budget for the "learning curve" when introducing the IDL system to the organization. Gayeski (1989) wrote, "Often adopters budget only for hardware purchases, and neglect to plan for the 'learning curve' in terms of costs and time needed to develop expertise in designing and producing for new media" (p. 13). The organization's early adopters implemented the system. They were very comfortable with technology and learned its capabilities after viewing a demonstration only once. There was a tendency for early adopters to expect the same from others. Rogers (1995) wrote about several classifications of adopters of innovation including innovators, early adopters, early majority, late majority (skeptics), and laggards. Rogers also stated that when innovations are introduced into organizations these groups in succession adopt them. The innovation is first adopted by the innovators and last by the laggards. Typically, the early adopters embrace the new technology and are willing to risk trying something new. The early majority observe the early adopter's success with using the innovation and decide to risk using it. The late majority see the success the early majority had with the innovation and decide to use it, although they are much more cautious. Finally, the laggards are not willing to try the innovation until they are forced to use it. This succession takes time. In the writer's organization, the early adopters did not budget sufficient time and resources to allow the innovation to diffuse through the organization.

Gayeski (1989) also wrote, "Technology is often led by vendors rather than

designers and researchers … because of this, hardware may be sold to users who are unprepared to design effective programs or who lack the appropriate information to use it well" (p. 13). The vendors of the IDL system who worked directly with the organization's implementers did not help the organization plan to integrate the system into its business environment. This proved to be a very limited strategy for the long-term adoption of the IDL system by the entire organization.

Perceived need for the system. The department managers did not perceive the need to use the IDL system to meet their departments' communication, education, and training needs. This appeared to be a common problem in other organizations seeking to expand their distance learning programs. The U.S. Department of Education, National Center for Education Statistics (NCES) (1997) reported that the lack of perceived need influenced organizations not to expand their distance learning programs. It found the lack of perceived need and the lack of fit with an institute's mission influenced organizations not to expand or start distance learning programs. The organization did not clearly articulate how the IDL system linked to its mission. This caused department managers to not consider it when deciding how to meet their communication, education, and training needs.

Chapter III: Anticipated Outcomes and Evaluation Instruments

Goals and Expectations

The purpose of this practicum was to increase the use of the IDL system within the organization by increasing department managers' knowledge of how the system could support their departments' communication, education, and training needs. Ideally, department managers would have the information they needed available to them when they were deciding whether to use the IDL system to support their needs. Specifically, they would consider the IDL system accessible to them. They would also know the IDL system's capabilities, costs, and appropriate uses.

Expected Outcomes

The following outcomes were projected for this practicum:

1. Managers will indicate that they will plan to use or actually have used the IDL system by the end of the practicum.
2. Managers will correctly select statements about the IDL system's capabilities, costs, availability, and appropriate uses.
3. Managers will increase their recognition of potential uses of the IDL system to support their departments' needs.

If the first outcome was achieved it would make a significant contribution to furthering the organization's goal to increase use of the IDL system. The author measured the first outcome by administering the Interactive Distance Learning Intranet-based Training Posttraining Questionnaire, reproduced in Appendix B. The Interactive Distance Learning Intranet-based Training Posttraining Questionnaire asked participants to indicate whether they used or planned to use the IDL system by the end of the practicum.

A successful standard of performance was at least 10 of the 30 department managers indicating on the Interactive Distance Learning Intranet-based Training Posttraining Questionnaire that they used or planned to use the IDL system by the end of the practicum.

If the second outcome was achieved it would indicate that managers were more knowledgeable about the IDL system by addressing their need for more information about the IDL system. The author measured the second outcome by administering the identical Interactive Distance Learning Intranet-based Training Pretest and Posttest, reproduced in Appendix C, that contained questions about the IDL system's capabilities, costs, availability, and appropriate uses. A successful standard of performance was at least 10 of the 30 participating department managers increased their posttest score over their pretest score by at least 20%.

The third outcome addressed the need for managers to connect their departments' requirements with the capabilities that the IDL system offered. Additionally, it addressed the need to demonstrate that the IDL system was a strategic tool for supporting the organization's mission. The author measured the third outcome by administering the identical Interactive Distance Learning Intranet-based Training Pretest and Posttest containing one question that asked participants to list potential applications for the IDL system to meet their departments' needs and to explain why they thought the applications were appropriate. A successful standard of performance was at least 10 of the 30 participating department managers would list three additional ways to use the IDL system on their posttests than they listed on their pretests.

Measurement of Outcomes

The writer measured the projected outcomes using data from the Interactive Distance Learning Intranet-based Training Posttraining Questionnaire and the identical Interactive Distance Learning Intranet-based Training Pretest and Posttest. Each outcome and measurement tool is described below.

The writer determined if the first outcome was achieved using data from the Interactive Distance Learning Intranet-based Training Posttraining Questionnaire. The Interactive Distance Learning Intranet-based Training Posttraining Questionnaire asked the participants to respond to five questions. Question 1 determined if participants had used the IDL system by the end of the practicum. Participants had the option of responding yes or no. Question 2 asked the participants if they planned to use the IDL system by the end of the practicum. Participants had the option of responding yes, no, or undecided. Question 3 asked participants to provide information about if and when they planned to use the IDL system in the future. Question 4 asked participants what type of IDL programs (e.g., training and education, communication, telemeeting, focus group, etc.) they might plan. The format for Questions 3 and 4 was multiple choice. Question 5 asked participants who did not plan to use the IDL system to provide information about why they did not plan to use it. Question 5 was formatted to allow participants to write in their responses. The Interactive Distance Learning Intranet-based Training Posttraining Questionnaire had no time completion requirement and was paper-based.

The writer measured the second outcome using the Interactive Distance Learning Intranet-based Training Pretest and Posttest. The Interactive Distance Learning Intranet-based Training Pretest and Posttest contained six multiple choice, three true/false, and

two correct selection questions. The paper-based Interactive Distance Learning Intranet-based Training Pretest and Posttest contained questions that assessed participants' knowledge of the IDL system's capabilities, costs, availability, and potential uses. There was no time limit for completing the paper-based Interactive Distance Learning Intranet-based Training Pretest and Posttest.

The writer measured the third outcome using the last question on the Interactive Distance Learning Intranet-based Training Pretest and Posttest. This question asked participants to list potential ways that the IDL system could be used to support their departments' needs. The format for this question was write-in response and was paper-based. The participants had as much time as they desired to complete this question.

Chapter IV: Solution Strategy

Discussion and Evaluation of Solutions

The problem addressed in this practicum was that department managers were not using the interactive distance learning (IDL) system to support their departments' communication, education, and training needs. The writer researched the following topics to find solution strategies: inservice training, technology adoption strategies, technology education, distance education, educational media, customer education, user education, barriers to technology, technology diffusion, and attitudes toward technology. The writer found numerous potential solutions in the literature that used various training technologies, including synchronous satellite teleconferencing and interactive television, asynchronous computer conferencing, asynchronous virtual classrooms, interactive multimedia and CD-ROM (compact disc read only memory), Internet-based training, and intranet-based training and discusses each below.

Synchronous satellite teleconferencing and interactive television. Bender, Clinton, and Hotaling (1996) found that synchronous satellite teleconferencing and interactive television were options for staff development. They discussed a staff development program on violence offered to teachers using lecture, panel discussion, debates, computer generated graphics, and video segments. The program was delivered using satellite teleconferencing with interaction accomplished using an 800 number. Six thousand teachers in 38 states participated in the program. Bender et al. further stated that although satellite teleconferencing was considered to be one of the most expensive distance learning methods, the cost per student could be very inexpensive if it was shared among a large audience. This was because the cost to offer satellite delivered programs

was the same regardless of the size of the audience. Bender et al. (1996) also discussed two-way interactive television used for teacher staff development in Kansas, Georgia, Iowa, and Kentucky. They stated that results could be more "intimate" for a staff development situation because the technology allowed for two-way interaction--the teachers had control over camera movement.

Key factors for making these technologies a possible solution were cost and availability. Two-way interactive television was not available within the organization and therefore was not an option. Synchronous satellite teleconferencing was available within the organization to deliver staff development training to audiences numbering 75 or greater who were located in remote classrooms. The size of the target population for this practicum was only 30. The other limitation of synchronous satellite teleconferencing was that it required all the participants to be interacting at the same time. With the varied schedules, geographic distribution, and time zones of the 30 participants, satellite teleconferencing lacked delivery flexibility. The writer did not use synchronous satellite teleconferencing as a solution strategy because it was unsuitable for the audience size, lacked delivery flexibility, and was cost prohibitive.

Asynchronous computer conferencing. Referring to asynchronous computer conferencing, Munger (1997) stated, "It is an excellent medium for training members of teams that must operate at different locations" (p. 46). The example that Munger discussed was a masters-level education degree program in information technologies and management from the International School of Information Management offered over the Department of Defense (DoD) intranet for 15 employees. The instructor provided online illustrations while the students, when it was convenient, participated in online

discussions, presentations, and examinations. Munger further stated, "Use this technique when students are in different time zones or have different work schedules … or when team building among geographically dispersed individuals is a desirable part of training" (p. 46). The target population was geographically dispersed throughout three time zones within the United States, and participants had varied work schedules. While they were not a formal team, they were members of the organization's management team structure. The writer did not use asynchronous computer conferencing because it was not available in the organization.

Some asynchronous conferencing technology components (e.g., electronic mail, voice mail) were available within the organization while others (e.g., conferencing software) were not. All of the target population had access to the organization's electronic mail and intranet site. The author used available asynchronous conferencing technology components (e.g., electronic mail, voice mail) to support the chosen solution strategy. The writer used electronic mail to recruit participants and communicate with them once the implementation was underway. The writer also used voice mail to provide technical support to the participants.

Asynchronous virtual classrooms. Driscoll (1997) stated, "Like traditional classroom training asynchronous virtual classrooms bring students and teachers together to learn new skills, knowledge, and attitudes" (p. 8). The target population needed to learn new knowledge about the IDL system's capabilities. They also needed to learn new decision-making skills about when to use the IDL system to support their departments' needs. Hopefully, this learning contributed to new attitudes about the IDL system. Asynchronous virtual classrooms had the ability to support these outcomes according to

Discroll.

Interactive multimedia and CD-ROM. Caudron (1996) wrote, "Interactive multimedia training [delivered via CD-ROM] is an effective, cost-efficient way to deliver learning and information to the employees' desktops [that] ... has event-driven programming that allows learners to retrieve the information they want and in the manner that makes the most sense to them ..." (p. 33). Caudron discussed how Andersen Consulting used CD-ROM to deliver training to 30,000 employees in business education practices and advocated using CD-ROM over traditional Computer-Based Training (CBT) media because it provided appealing visual and audio aids. Caudron further stated that while CD-ROMs could be mailed to employees they were not particularly effective for information that changed frequently.

Interactive multimedia delivered via CD-ROM was not suitable for this content because it was not easily updated or cost effective for information that frequently changed. The IDL system's capabilities and cost continually changed within the organization. However, the multimedia elements of audio and video would provide participants with a richer learning experience. The writer used limited multimedia as part of the solution strategy, but did not use CD-ROM. The writer implemented the solution with elements of asynchronous virtual classroom technology with hypertext, graphics, and photos.

McGee (1996) wrote, " 'Companies are beginning to favor multimedia-based training as a substitute for classroom instruction because it can deliver more uniform training to more users with less downtime in productivity for travel', says John Faier, an OmniTech Principle" (p. 109). McGee cited a survey by OmniTech Consulting Group

that found that 16% of large companies used multimedia based training, and 35% of them expected it to be a predominant distribution source for training in the next 2 years. Companies were using multimedia to train staff in technical and nontechnical skills.

The organization's learning culture valued uniform training and was striving to reduce costs with its IDL system. Limited multimedia (i.e., hypertext, graphics, and photos) provided a uniform way to teach nontechnical skills required of the department managers who needed to learn about the IDL system. The writer incorporated limited multimedia-based training into the chosen solution.

Internet-based training. Referring to Internet-based training, Glener (1996) stated, "Training will be available on demand and delivered remotely. And it will be able to keep up with the pace of change" (p. 57). Given that the target population was geographically dispersed throughout the United States and that the information about the IDL system was continually changed, Internet-based training offered a way to meet these two criteria. This solution provided the most convenient and timely access to instruction where and when managers were deciding to use the IDL system to support their departments' needs. Additionally, referring to a corporate salesforce training program Glener stated, "Trainees get information on the new product when they need it, and they can study only what is important to them" (p. 57). Department managers were only interested in the IDL system when they needed to decide if they wanted to use it for a program they were considering or during budget planning.

Intranet-based training. Wynn (1997) wrote, "Intranet-based training (IBT) advantages fall into the 'ease and speed of deployment' and 'ease of administration' category" (p. 3). This was primarily because the source of the content in the training

could be updated in one location–the organization's intranet server. Ease of administration was beneficial to the organization because it was seeking a delivery method that would reduce the administration time necessary to deliver training, resulting in a cost reduction in training delivery. Ease of administration also included ease of evaluation and assessment. The solution provided the organization with a cost-effective method to update frequently changing content and distribute it to geographically dispersed department managers.

Referring to intranet-delivered training Gery (1991) wrote, "We now have the means to model, represent, structure, and implement a system that supports (the employees) electronically and to make it universally and consistently available on demand at anytime, in any place, and regardless of the situation without unnecessary intermediaries involved in the process" (p. 34). Universal, consistent, and accessible training delivery with minimal intermediaries was an important success strategy for the chosen solution because it demonstrated how training delivery administration costs could be reduced within the organization. The writer incorporated these successful strategies in the solution.

Carr (1996) wrote, "For example, General Electric Co. is using its intranet system in Fairfield Connecticut 'to get more and better information to employees at their desktops and give employees more convenient access to information'" (p. 62). The ability for department managers to access information about the IDL system from their desktops provided them with timely information when they were deciding to use distance learning to support their communication, education, and training needs. The writer implemented a solution that was accessible to department managers at their desktops.

Ryan (1997) found, "One advantage the WWW [(Word Wide Web)] or intranet offers an organization is the ability to market itself to itself adding to the performance and meeting the demands of cost effectiveness" (p. 23). Intranet-based training not only provided department managers with the information they needed about the IDL system's capabilities, costs, and availability, it also provided a vehicle for marketing it to them. A key cause of the problem was that managers did not know about the capabilities of the IDL system because it was not marketed to them. The writer used intranet-based training to teach department managers about the IDL system and marketed its use within the organization.

Description of Selected Solution

The writer generated the idea of using intranet-based training as a solution strategy while reviewing the literature and further investigated this as a suitable delivery option by examining existing resources. The organization had an existing intranet site where the intranet-based training could be located and accessed by participating department mangers. Intranet-based training (Discroll, 1997; Caudron, 1996; McGee, 1996; Glener, 1996; Wynn, 1997; Ryan, 1997) with available asynchronous computer conferencing (Munger, 1997), voice mail, and electronic mail was a convenient and timely distribution method for marketing to and teaching department managers about the IDL system's capabilities. Intranet-based training was the most appropriate solution strategy given the available company resources, audience size, and geographic distribution.

The planned solution strategy included a self-paced, intranet-based instructional module that corrected the inaccurate perceptions managers had about the IDL system's

capabilities and taught them to recognize how the IDL system could support their departments' communication, education, and training needs. Self-paced, intranet-based training provided department managers with timely and convenient access to the information they needed about the IDL system. This helped them to recognize how the IDL system supported their departments' communication, training, and educational needs.

Report of Action Taken

The writer led the implementation of the practicum solution with the support of the organization's senior management. The writer designed storyboards illustrating the instructional objectives and content for the intranet-based instructional module using PowerPoint 97 (1997). The writer included information on how to contact the organization's studio crew, business television producers, and training department. The writer sent the storyboards to the training, communication, and television departments for their review and obtained their approval of the content. The writer incorporated the comments from these departments into the final instructional design for the instructional module.

The writer used the automatic HTML (hypertext markup language) save feature of PowerPoint 97 (1997) to design the initial storyboards and Web pages for the instructional module. The writer originally planned to use this feature of PowerPoint 97 to develop the final version of the intranet-based instruction but encountered a problem with the quality of the graphics. This caused the writer to seek assistance from an HTML programmer to develop the final version. Supervised by the writer, the programmer used the instructional design and content the writer developed using PowerPoint 97 as the foundation for the final design. The writer did not recommend using the automatic save

feature of PowerPoint 97 for final versions of intranet-based training because the quality of the graphics was not suitable for viewing with several popular Web browsers (e.g., Netscape, Internet Explorer, etc.). This problem caused a delay in the development of the intranet-based instructional module.

Once the module was complete, the programmer loaded the instructional module on to the organization's intranet server for testing. The writer and others tested the intranet-based instructional module using various webbrowsers. Once again the writer experienced a problem with how various Web browsers displayed the instructional module. The writer learned that the graphics were created in a higher resolution than the standard webbrowsers used by the organization. The writer requested the programmer to adjust the graphics so that the instructional module could be viewed using the organization's standard webbrowsers.

Once the testing of the instructional module was complete, the writer briefed executive management and senior managers of each department at the organization's headquarters to gain their support and approval to recruit participants from their departments to pilot the instruction by participating in the practicum. The writer also demonstrated the instructional module to executive management and senior managers during the briefing. Following the briefing the writer drafted a memorandum for the training department director's signature. This memorandum was distributed to all managers requesting that they identify 2 to 3 participants from their departments to pilot the instructional module. The writer also sent a memorandum to the organization's field ATEDs requesting that they recruit participants from the 5 area offices and 9 laboratories.

Nineteen national headquarters' staff and 19 field staff agreed to participate in the practicum. The writer assigned a number to all participants noting their names in a log to ensure accurate recording of their test scores. The writer sent a memorandum to each participant providing information on the background of the project, participant requirements, and participant instructions.

The reader will note the writer used the term viewer response system (VRS) instead of interactive distance learning (IDL) system throughout the pretest, posttest, and posttaining questionnaire and all memorandums related to the project. The writer chose to use the term VRS because the organization's business television department decided to begin referring to the IDL system as the viewer response system (VRS). The business television department members felt that the term was more descriptive of the IDL system's technology. Consequently, the writer revised the title of the Interactive Distance Learning Intranet-based Training Pretest and Posttest (Appendix C) to the Viewer Response System Intranet-based Training Pretest and Posttest. The writer also revised the title of the Interactive Distance Learning Intranet-based Training Posttraining Questionnaire (Appendix B) to the Viewer Response System Intranet-based Training Posttraining Questionnaire. These changes were necessary to remain consistent with the organization's new name for the system.

The reader will also note that the writer omitted the phrase "by May 1999" in Question 1 and Question 2 in the revised version of the posttraining questionnaire (i.e., Viewer Response System Intranet-based Training Posttraining Questionnaire). The writer did this at the suggestion of the director of the training department. The director suggested that if the writer deleted this phrase, participants would better understand the

question. In addition, the director indicated that the phrase was redundant because Question 3 asked participants to determine when they plan use the VRS system. The director reasoned correctly that Question 3 would determine if they plan to implement a program by May 1999. The writer agreed and revised the Viewer Response System Intranet-based Posttraining Questionnaire.

Ten of the 38 participants did not complete their Viewer Response System Intranet-based Pretests within the requested 2 weeks. To encourage these participants to finish the writer contacted each of them via telephone. This resulted in six additional participants completing their Viewer Response System Intranet-based Pretest. Four participants never completed it. A total of 34 participants completed the Viewer Response System Intranet-based Training Pretest.

As participants completed the Viewer Response System Intranet-based Training Pretest the writer sent them access instructions for the intranet-based instructional module. The writer received no calls from national headquarters' participants requesting assistance to access the instruction. The writer received a request from an ATED to create a diskette version and Internet version of the instructional module to allow participants who did not have access to the organization's intranet site to participate in the practicum. The writer immediately created a diskette version with access instructions and mailed it to field participants. The writer also explored various Internet sites within the organization and the writer's academic institution but did not find a suitable location to place the instructional module. These sites were unsuitable because the approval process for a secure web site at both institutions was too lengthy to accommodate installing the instructional module in time to meet the practicum calendar requirements. As a result the

writer sought assistance from a private Internet service provider (ISP), acquired an Internet domain, and placed the instructional module at this location with the added security of user identification and password codes. The additional security was necessary because the instructional module contained proprietary program cost information.

The writer consolidated the instructions for the three access methods (e.g., intranet, Internet, diskette) into one set of instructions and mailed it to the remaining participants. The writer received two help calls from field participants requiring assistance to access the instruction. Both help calls dealt with how their facilities' intranet server communicated with the organization's server at national headquarters. The writer easily guided the participants by asking them to enter an alternative site address.

As participants completed the instructional module the writer sent them the Viewer Response System Intranet-based Posttest and the Viewer Response System Intranet-based Postttraining Questionnaire. Twenty of the 34 participants who completed the pretest did not complete their posttests and posttraining questionnaires within the requested 2 weeks. To encourage these participants to finish and to expedite the process the writer sent them a second copy of the access instructions and a memorandum requesting that they complete the program by a specified date. The memorandum specified that the writer needed to compile the information to present to senior management. This encouraged 10 of the remaining 20 participants to finish the Viewer Response System Intranet-based Training Posttraining Questionnaire and Viewer Response System Intranet-based Training Posttest. Twenty-four participants completed the entire program.

As participants finished the program the writer sent a memorandum to them thanking them for their participation. Additionally, the writer mailed to the participants a coffee mug with the organization's business television logo as a reward for completing the instruction. The writer summarized the results of the practicum and prepared a briefing for the director of the training department and the ATEDs.

Chapter V: Results

Results

The problem addressed in this practicum was that department managers for a large nonprofit biologics pharmaceutical firm were not using the organization's interactive distance learning (IDL) system (i.e., viewer response system (VRS)) to support their departments' communication, education, and training needs. The goal of the practicum was to increase the use of the IDL system within the organization by increasing department managers' knowledge of how the system could support their departments' needs by making information about the IDL system easily available to them. The writer's solution strategy implemented an intranet-based, self-paced instructional module that provided managers with timely and convenient access to information they needed about the IDL system's capabilities, costs, and uses. The writer also created an Internet and diskette version of the instructional module making the solution strategy a web-based instructional module rather than intranet-based only. The writer determined the effectiveness of the solution strategy by administering the Viewer Response System Intranet-based Pretest, Posttest, and Posttraining Questionnaire. Thirty-eight participants completed the Viewer Response System Intranet-based Pretest. Twenty-four participants completed the instructional module, Viewer Response System Intranet-based Pretest, Posttest, and Posttraining Questionnaire. The author projected the following outcomes for this practicum:

1. Managers will indicate that they plan to use or actually have used the IDL system by the end of the practicum.
2. Managers will correctly select statements about the IDL system's capabilities,

costs, availability, and appropriate uses.

3. Managers will increase their recognition of potential uses of the IDL system to support their departments' needs.

The author discusses each outcome in detail below:

Outcome 1. The successful standard of performance for the first outcome was at least 10 of the 30 department managers indicating on the Viewer Response System Intranet-based Training Posttraining Questionnaire that they would use or actually had used the IDL system by the end of the practicum.

This outcome was met.

The author measured the first outcome using Question 1, 2, and 3 of the Viewer Response System Intranet-based Training Posttraining Questionnaire. As shown in Table 1, four participants indicated that they had used the VRS (Question 1), 13 participants indicated that they planned to use it (Question 2), and 10 participants indicated they planned to use it within 12 months (Question 3).

Table 1

Viewer Response System Intranet-based Training
Posttraining Questionnaire Summary of Responses

	Number of Participants
Question 1: Used the VRS as a result of training	
Yes	4
No	19
Did not respond	1
Question 2: Planned to use VRS as a result of training.	
Yes	13
No	1
Undecided	9
Did not answer	1
Question 3: Planned to use the VRS	
Never	1
Within 3-6 months	5
Within 9-12 months	5
Within 18-24 months	3
Question 4: Type of VRS program planned	
Education & training	17
Communication	11
Telemeeting	4
Focus Group	7
Other	0
Question 5: Reason why participant planned to use the VRS	
Did not respond	20
Not decision maker	4

The writer noted that even though four participants indicated that they actually used the VRS (i.e., IDL system), none of them actually planned or implemented a program. Why then did four participants indicate they actually used it? The writer believed that participants indicated they used the IDL system because the author worded the question poorly, making it difficult to understand. It was likely that they did use the IDL system as audience members but not as program planners. This conclusion was further supported by two participant notes written in the margin next to Question 1 of the Viewer Response System Intranet-based Training Posttraining Questionnaire stating that they participated in program as members of the audience.

Perhaps the most significant reason why 19 participants answered no to Question 1 may be because the IDL system was not available during 3 months of the 8 month implementation period. During May 1998, the IDL system's satellite Galaxy IV malfunctioned. This caused the organization to cancel broadcasts scheduled for June, July, and August.

Question 4 asked participants what type of IDL programs (e.g., training and education, communication, telemeeting, focus group, etc.) they might plan. As shown in Table 1 the majority of participants responded that they would use the IDL system for education and training or communication purposes. Table 1 also shows that the IDL system would be used less for focus groups and telemeetings. The results indicated that the IDL system would probably be used for education and training programs or to communicate information to the organization's remote locations in the future.

Question 5 asked participants who did not plan to use the IDL system to provide information about why they did not plan to use it. Only four participants wrote responses

to this question. These participants stated that they did not feel they were in positions to plan programs for their departments.

Outcome 2. The successful standard of performance for the second outcome was at least 10 of the 30 participating department managers would increase their posttest score over their pretest score by at least 20%.

This outcome was met.

As shown in Table 2, 12 of the 24 participants increased their posttest scores over their pretest scores by 20%. The results of the second outcome indicated that managers were more knowledgeable about the IDL system and that the instructional module addressed their need for more information about the IDL system. The author measured the second outcome by comparing the results of the identical Viewer Response System Intranet-based Training Pretest and Posttest that contained questions about the IDL system's (i.e., VRS) capabilities, costs, availability, and appropriate uses.

Table 2

Viewer Response System Intranet-based Training

Summary of Pretest and Posttest Scores

Questions 1 through 11

	Score		
Participants	Pretest	Posttest	Difference (%)
1	82	90	8
2	64	82	18
3	64	100	36
4	72	72	0
5	72	100	28
6	82	72	-10
7	63	82	11
8	64	90	26
9	36	90	54
10	72	82	10
11	90	100	10
12	72	100	28
13	72	100	28
14	45	90	45
15	64	82	18
16	72	100	28
17	72	72	0
18	54	100	46
19	72	100	28
20	64	100	26
21	55	100	45
22	82	100	18
23	82	100	18
24	82	100	18

Outcome 3. A successful standard of performance for the third outcome was at least 10 of the 30 participating department managers listed 3 additional ways to use the IDL system.

This outcome was not met.

The third outcome addressed the need for managers to connect their departments' requirements with the capabilities that the IDL system offered. Additionally, it addressed the need for participants to demonstrate that the IDL system was a strategic tool for supporting the organization's mission. The author measured the third outcome using Question 12 of the Viewer Response System Intranet-based Training Pretest and Posttest that asked participants to list potential applications for the IDL system to meet their departments' needs and to explain why they thought the applications were appropriate.

As shown in Table 3, 7 of the 24 total participants increased their recognition of potential uses by 3 and 11 of the 24 total participants increased their recognition of potential uses by at least 1.

Table 3

Viewer Response System Intranet-based Training

Summary of Pretest and Posttest Scores

Question 12

	Score		
Participants	Pretest	Posttest	Difference
1	0	2	2
2	2	5	3
3	2	5	3
4	1	2	1
5	1	6	5
6	0	0	0
7	4	4	0
8	1	3	2
9	1	1	0
10	1	2	1
11	1	2	1
12	2	3	1
13	1	4	3
14	0	3	3
15	5	0	0
16	2	0	0
17	3	4	1
18	0	1	1
19	1	3	2
20	0	2	2
21	2	5	3
22	1	2	1
23	4	7	3
24	3	3	0

Participants generated 13 new program ideas for the IDL system. The writer was encouraged by this result because it provided information to the training department for planning future programs. In addition, while the third outcome was not met in the strictest sense by increasing each participant's recognition of potential uses by 3, 18 participants

increased their recognition by at least 1 potential use and provided 13 new program ideas. If these 18 participants actually implemented 13 new IDL program ideas, the increase in use would be profound.

Discussion

The writer concluded that the instruction had influenced at least 10 participants to begin planning new and unique IDL programs within the near future. The writer speculated that if the IDL system's satellite had not malfunctioned, it was possible that the managers might have implemented these programs sooner if funding and resources were available.

The result of the second outcome undoubtedly increased the managers' knowledge about the IDL system. The writer identified eight causes in Chapter II for why the IDL system was underused. These causes were similar to those found in other organizations. All eight of these causes could be reduced or eliminated by increasing the department managers' understanding of the IDL system's capabilities, costs, and potential uses. While immediate results to increase the IDL system's use may be seen from managers' increased knowledge, the writer predicted this increased knowledge would contribute to a greater use of the IDL system over time. The practicum participants could have a strong influence on the organization's ability to plan and develop IDL programs by providing more examples of its use. Schreiber (1998) wrote about the four stages through which organizations progress in establishing their organizational technology capability for distance learning. In describing the ultimate capability stage, Schreiber wrote, "The ultimate capability stage for implementing distance training is illustrated by the organization that understands the strengths and weakness of various delivery tools,

correlates instructional materials development to these strengths and weakness and truly maximizes utilization of the technology" (p. 12).

In addition the instructional module provided participants with information about how the IDL system could help the organization realize its strategic goals. Schreiber (1998) wrote, "Research indicates that the success of distance training relies on linking intended performance outcomes to the business goals and objectives of the organization (Eskow, 1997; Green, 1997; Robinson and Robinson, 1996; Steward, 1995; and Newman, 1997)" (p. 14.).

Recommendations

The writer made several recommendations to further the organization's goal to increase the use of the IDL system. The writer also recommended a modification to the practicum process.

1. The writer underestimated the amount of time necessary to develop the intranet-based instructional module. The writer's original development time estimate was 4 weeks, which is the maximum timed allowed by the practicum process. The actual development time was 12 weeks. The writer recommended that the practicum process allow more time to develop web-based instructional materials using the Systems Approach Model for Designing Instruction developed by Dick & Carey (1996).

2. The organization's instructional designers and developers should be trained to assist department managers in recognizing potential uses for the IDL system and to design instructional programs to maximize the IDL system's unique capabilities. A significant portion of the organization's instructional design staff had not received training in these two areas. The instructional designers were in the best position to guide

department managers in deciding when the IDL system could support their education and training needs because designers were the first points of contact.

3. The organization should develop an annual training implementation plan based upon an appropriate cost benefit model with collaboration from other departments that identified programs that could be routinely offered using the IDL system. Ideally, the plan would connect these routinely offered programs with the organization's mission or strategic goals and become a step in the organization's budget planning process. The practicum participants mentioned several existing routinely offered programs that could easily be modified from classroom training format to distance learning format including employee orientation, management development, and quality assurance education. This would move the organization from its separate/sporadic immature stage of organizational technological capability for distance learning to the next stage of experienced distance learning events (Schreiber, 1998). The organization had no comprehensive plan for offering distance learning programs. It relied on sporadic single training events typically not planned for in the annual budget that were spearheaded by one sponsor or department. These events were usually not known from one department to another. Schreiber suggested that for an organization to progress to the next stage of capability and experience distance training events, the organization must develop an interdisciplinary team approach. Referring to this stage Schreiber wrote, "The initial distance education and training events [in stage 1] become standard practice, and replication occurs" (p. 14). Schreiber also wrote, "At this stage of organizational technology capability for distance learning, a corporation or agency often forms an interdisciplinary team, and the participating members respond to staff and management

inquiries and recommendations....The impact of successful collaboration on distance learning ensures a higher probability that the distance training event (and subsequent distance learning programs) will yield the organization's intended outcomes to meet business needs" (p. 14-15).

4. The organization should consider developing more intranet-based instructional programs to augment IDL programs. It should plan to offer intranet-based training in a variety of delivery formats including password protected Internet sites and diskette versions. A positive unexpected outcome of the practicum was the ease at which participants accessed the instruction using one these delivery formats. The writer only received two calls from field participants who experienced difficulty accessing it. In both cases it was a network access problem that with the writer's guidance was easily solved within minutes. This represented an immense opportunity for the organization to distribute instruction to field participants easily and cost effectively.

Dissemination

The writer planned to disseminate the practicum report to the organization's management and to the various teams that support the IDL system including the training and communication departments, television studio, and the training technology team. With the permission of the organization's training department director and legal counsel the writer planned to publish an article based on the practicum in an appropriate journal.

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APPENDIX A

INTERVIEW PROTOCOL

FOR INTERVIEWS CONDUCTED FACE-TO-FACE AND VIA TELEPHONE

Interview Protocol
for Practicum Problem
Increasing the Use of the IDL System

Interviewees include area education and training Directors (ATEDs), instructional designers, training managers, selected education managers, education officers, education coordinators, and department managers.

Thank you for agreeing to be interviewed.

I am exploring how we can increase the use of the IDL system (i.e., One Touch) to support our current activities (e.g., BSDs, MACS, Management Team Agenda, etc.).

I will be taping the conversation, so that I can refer back to your responses as I work through the problem-solving process.

An approach I am taking is to first investigate the barriers to choosing IDL to deliver training, communication, and education activities. I will then seek to develop strategies to overcome these barriers and to find solutions that will hopefully increase the use of the IDL system.

Barriers
One way to think about barriers is to group them into categories: procedure, people, materials, equipment, and attitudes. In your opinion what are the barriers to using IDL to deliver training and other educational activities (e.g., focus groups, telemeetings, etc.)?

Strategies
What ideas do you have for increasing the use of the IDL system to support Biomedical Services' mission, current education and training activities, and the FY 98 Management Team Agenda?

What is your opinion of how the IDL system can best be used to deliver BSD related training?

What other individuals would you recommend I speak with?

Thank you for your time.

APPENDIX B

INTERACTIVE DISTANCE LEARNING

POSTTRAINING QUESTIONNAIRE

Interactive Distance Learning
Intranet-based Training
Posttraining Questionnaire

Please circle your response to the following questions.

1. As a result of completing this training did you use the IDL system by May 1999?

A	B
Yes	No

2. As result of the completing this training do you plan to use the IDL system by May 1999?

A	B	C
Yes	No	Undecided

3. If you have not used and do not plan to use the IDL system by May 1999, when do you plan to use it?

A	B	C	D
Never	with 3-6 months	within 9-12 months	within 18 months

4. If you plan to use the IDL system what type of program will it be? Please circle all program types that apply.

A	B	C	D	E
Training & Education	Communication	Telemeeting	Focus Group	Other

5. If you do not plan to use the IDL system, please describe why not in the space provided below:

APPENDIX C

INTERACTIVE DISTANCE LEARNING

PRETEST AND POSTTEST

Interactive Distance Learning
Intranet-based Training
Pretest

This pretest is designed to determine how much you already know about the capabilities, availability, and appropriate uses of the IDL system prior to taking this instruction.

Please provide your best answer to the following questions.

1. The IDL system when fully implemented will be capable of involving how many remote sites?

A	B	C	D	E
50	66	125	500	1100

2. The average cost of a 2-hour IDL program is?

A	B	C	D	E
$1,500	$5,000	$6,500	$10,000	$15,000

3. To accomplish interaction between the presenter and participants, the IDL system uses?

A	B	C	D	E
Keypads	Telephones	Fax machines	CrossNet	BioLink

4. Which of the following question formats are used in the IDL system? Check all that apply.

	Question Format
	Multiple choice
	True/False
	Numeric Response
	Fill in the Blank
	Essay
	Yes/No Undecided

5. Select true or false for the following statements:

T/F	
T F	The IDL system allows the presenter to see participants.

6. The best way to begin planning an IDL program for your department is to:

A	Budget for it
B	Contact an ARC-TV team member
C	Contact Corporate Communications
D	All of the above
E	A and B

7. Select true or false for the following statements:

T/F	
T F	The larger the audiences the more cost effective the IDL program will be.

8. The IDL system is available only to:

A	Corporate Communications
B	ARC-TV and Drew Institute
C	Any Red Cross department
D	All of the above
E	A and B

9. Which of the following program(s) are appropriate for use with the IDL system. Check all that apply.

	Telemeetings
	Focus Group
	Small one-site meetings
	Education and Training
	Meetings with face-to-face interaction required.

10. When fully implemented how many people can simultaneously participate in an IDL program?

A	500
B	2500
C	5000
D	7500
E	1100

11. Select true or false for the following statements:

T/F	
T F	The IDL system allows the participants to see the presenter.

12. Given what you know today about the IDL system, please list potential ways to use the system to support your department's needs. List a brief rationale, reason why, or example for why you think it is appropriate for each potential use you list. Please write your answers in the space provided below:

Interactive Distance Learning
Intranet-based Training
Posttest

This posttest is designed to determine how much you learned about the capabilities, availability, and appropriate uses of the IDL system.

Please provide your best answer to the following questions.

1. The IDL system when fully implemented will be capable of involving how many remote sites?

A	B	C	D	E
50	66	125	500	1100

2. The average cost of a 2-hour IDL program is?

A	B	C	D	E
$1,500	$5,000	$6,500	$10,000	$15,000

3. To accomplish interaction between the presenter and participants, the IDL system uses?

A	B	C	D	E
Keypads	Telephones	Fax machines	CrossNet	BioLink

4. Which of the following question formats are used in the IDL system? Check all that apply.

	Question Format
	Multiple choice
	True/False
	Numeric Response
	Fill in the Blank
	Essay
	Yes/No Undecided

5. Select true or false for the following statements:

T/F	
T F	The IDL system allows the presenter to see participants.

6. The best way to begin planning an IDL program for your department is to:

A	Budget for it
B	Contact an ARC-TV team member
C	Contact Corporate Communications
D	All of the above
E	A and B

7. Select true or false for the following statements:

T/F	
T F	The larger the audiences the more cost effective the IDL program will be.

8. The IDL system is available only to:

A	Corporate Communications
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C	Any Red Cross department
D	All of the above
E	A and B

9. Which of the following program(s) are appropriate for use with the IDL system. Check all that apply.

	Telemeetings
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T F	The IDL system allows the participants to see the presenter.

12. Given what you know today about the IDL system, please list potential ways to use the system to support your department's needs. List a brief rationale, reason why, or example for why you think it is appropriate for each potential use you list. Please write your answers in the space provided below: